UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/789,894	02/27/2004	Yoshitaka Suzuki	14225.10US01	9320

7590 04/11/2008

Hamre, Schumann, Mueller & Larson, P.C.
P.O. Box 2902-0902
Minneapolis, MN 55402

EXAMINER	
HAUGLAND, SCOTT J	
ART UNIT	PAPER NUMBER
3654	

MAIL DATE	DELIVERY MODE
04/11/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/789,894	SUZUKI ET AL.	
	Examiner	Art Unit	
	Scott Haugland	3654	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *07 February 2008*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *10-14* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *10-14* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Objections

Applicant is advised that should claim 12 be found allowable, claim 14 will be objected to under 37 CFR 1.75 as being a substantial duplicate thereof. When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k).

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 10-14 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The language of claim 10, lines 18-25 and claim 13, lines 18-25 is unclear and appears to be inconsistent. It states that the device separate from the weight is adapted to predict a collision and send a signal to the electronic control unit indicating the possibility of a collision, but it, also, states that the device permits the electronic control unit to calculate an acceleration and carry out a predication of a collision. It is not clear

which of one the electronic control unit and the device separate from the weight predicts the collision and which calculates acceleration.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 10, 12, and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over the admitted prior art of the page 1 (last two lines) and page 2 of the specification in view of Bullinger et al (DE 100 61 040) and Fohl (U.S. Pat. No. 4,109,881).

The admitted prior art discloses a seat belt device comprising a retractor including a reel, ratchet teeth, and ratchet claw. The seat belt device further comprises a weight responsive to acceleration to effect engagement of the claw and an electric motor driven to take up webbing based on a collision predicting signal generated by a device separate from the weight.

The admitted prior art does not disclose that the motor is driven in the normal direction to cancel locking of the reel after the collision predicting signal has disappeared or that the device separate from the weight and adapted to predict the collision of the vehicle includes an adaptive cruise control system.

Bullinger et al (note corresponding U.S. doc. no. 2004/0056471) discloses a seat belt device comprising a retractor including a reel 12, ratchet teeth (on 11), ratchet claw 10, a vehicle sensitive actuator for causing engagement of the ratchet claw and ratchet teeth, and an electric motor 16 driven to take up webbing based on a collision predicting signal generated by a device (control unit) separate from the vehicle sensitive actuator (e.g., an adaptive cruise control system; par. 26 of Bullinger et al '471) . Bullinger et al teaches releasing the ratchet claw from the ratchet teeth (i.e., releasing the lock mechanism) by rotating the belt reel 12 in the belt winding direction (par. 9 of Bullinger et al '471). Bullinger et al '471 teaches rotating the reel to release the lock mechanism when the acceleration determined by the control unit falls below a predetermined level (par. 28).

Fohl teaches driving a motor (return spring; col. 2, lines 59-61) of a seat belt retractor in a normal (tightening) direction by an amount corresponding to one crest of a ratchet tooth to cancel locking of the retractor (by ratchet pawl 10), thereby loosening the webbing (col. 10, lines 1-19).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to rotate the motor of the admitted prior art in the normal (tightening) direction by one ratchet tooth crest to release the ratchet pawl from the ratchet teeth as taught by Bullinger et al or Fohl to eliminate the need for a separate actuator for releasing the pawl. It would have been obvious to make the device for predicting the collision include an adaptive cruise control system and other control systems and to release the pawl when an acceleration is below a predetermined level

as taught by Bullinger et al to eliminate unnecessary sensors and reduce the number of parts in the retractor of the admitted prior art.

Claims 11 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over the admitted prior art in view of Bullinger et al and Fohl as applied to claim 10 above, and further in view of Dybro et al (U.S. Pat. No. 5,529,258).

The admitted prior art does not explicitly state that electric motor is operated to rotate the reel in the normal (tightening) direction when the ratchet claw is engaged with one of the ratchet teeth.

Dybro et al teaches operating a seat belt tightener while an acceleration sensitive ratchet pawl 74 is in engagement with ratchet teeth 44 associated with a belt reel (col. 1, lines 28-36; col. 2, lines 55-62; col. 4, lines 54-60).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to operate the motor of the admitted prior art to tighten the belt while ratchet pawl is in engagement with the ratchet teeth as taught by Dybro et al to ensure that belt tension created by the motor is not lost.

Response to Arguments

Applicants' arguments filed 2/7/08 have been fully considered but they are not persuasive.

Applicants argue that neither the admitted prior art or Fohl disclose the subject matter of claims 10 and 13 including an electronic control unit and adaptive cruise

control system separate from a weight and adapted to predict a collision of a vehicle. However, Bullinger et al teaches this. In Bullinger et al, a belt retractor is controlled by a control unit that uses the output of an adaptive cruise control system to predict a collision and to drive the belt retractor in a winding direction to release a locking pawl when the control unit determines that there is no danger of a collision and an acceleration of the vehicle is below a predetermined level (par. 26-28 of Bullinger et al '471). Fohl operates to release a locking pawl, but drives the reel by a spring (and possibly manual assistance if necessary since no motor is present) in a similar manner and teaches rotating the reel by one tooth crest to release the locking pawl.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. The new grounds of rejection were necessitated by the amendments to claims 10 and 13. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Scott Haugland whose telephone number is (571)272-6945. The examiner can normally be reached on Mon. - Fri., 10:00 am - 6:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Peter Cuomo can be reached on (571) 272-6856. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/SJH/
4/8/08
/Peter M. Cuomo/
Supervisory Patent Examiner, Art Unit 3654